

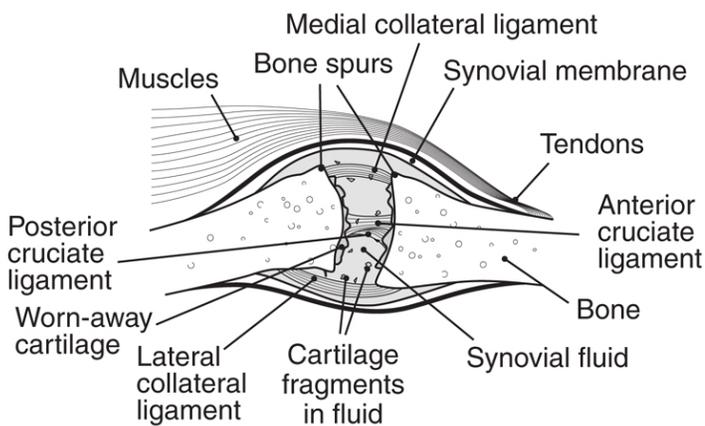


## Overview

### Points To Remember About Osteoarthritis

- Osteoarthritis is a disease that damages the slippery tissue that covers the ends of bones in a joint. This allows bones to rub together, causing pain and stiffness.
- Osteoarthritis occurs most often in older people. Younger people sometimes get the disease after joint injuries.
- No single test can diagnose osteoarthritis. Doctors use several methods to diagnose the disease and rule out other problems.
- Treatments for osteoarthritis include medicines, nondrug pain relief techniques, surgery, and alternative therapies.
- Exercise, weight control, and other self-care activities can help you live with osteoarthritis.

Osteoarthritis is the most common type of arthritis and is seen especially among older people. It is sometimes called degenerative joint disease.



A joint with severe osteoarthritis (representation)

People with osteoarthritis usually have joint pain and stiffness. The most commonly affected joints are in the hands (ends of the fingers and thumbs), neck, lower back, knees, and hips. Unlike some other forms of arthritis, osteoarthritis does not affect the skin, lungs, eyes, or blood vessels. It can also occur in only one joint or can affect a joint on one side of the body much more severely.

Osteoarthritis affects each person differently. For some people, osteoarthritis is relatively mild and interferes little with day-to-day life. For others, it causes significant pain and disability. Joint damage usually develops gradually over years, although it could worsen quickly in some people.

## What happens in osteoarthritis?

Osteoarthritis damages cartilage, the tissue that covers the ends where two bones meet to form a joint. This allows the bones to rub together, causing pain, swelling, and loss of joint motion. Over time, the joint may lose its normal shape. Also, small bone growths, called osteophytes or bone spurs, may grow on the edges of the joint. Bits of bone or cartilage can also break off and float inside the joint space. This causes more pain and damage.

## Who gets it?

Osteoarthritis becomes more common with age. However, younger people can also develop it, usually as the result of a joint injury, an abnormal joint structure, or a genetic defect in joint cartilage.

Before age 45, more men than women have osteoarthritis. After age 45, it is more common in women. It is also more likely to occur in people who are overweight and in those with jobs that stress particular joints.

## What are the symptoms?

Early in the disease, your joints may ache after physical work or exercise. Later on, joint pain may become more persistent. You may also experience joint stiffness, especially when you first wake up in the morning or have been in one position for a long time.

Joints often affected by osteoarthritis include:

- **Hands:** If your mother or grandmother has or had osteoarthritis in their hands, you're at an increased risk of having it too. Women are more likely than men to have osteoarthritis in the hands. For most women, it develops after menopause.
- **Knees:** Stiffness, swelling, and pain in the knees can make it hard to walk, climb, and get in and out of chairs and bathtubs. Osteoarthritis in the knees can lead to disability.
- **Hips:** You might feel pain and stiffness in the hip joint or in the groin, inner thigh, buttocks, or even knees. Moving and bending may be limited, making daily activities such as

dressing and putting on shoes a challenge.

- **Spine:** You may feel stiffness and pain in the neck or lower back. In some cases, arthritis-related changes in the spine can cause pressure on the nerves where they exit the spinal column, resulting in weakness, tingling, or numbness of the arms and legs. In severe cases, this can even affect bladder and bowel function.

## What causes it?

Osteoarthritis usually happens gradually over time. Some things that might make it more likely include:

- Being overweight.
- Getting older.
- Joint injury.
- Joints that are not properly formed.
- A genetic defect in joint cartilage.

## Is there a test for it?

Although there is no single test for osteoarthritis, your doctor may do the following to diagnosis you with the condition:

- **Medical history** to learn about your symptoms, any other medical problems you and your close family members have, and about any medications you are taking.
- **Physical exam** to check your general health, reflexes, and problem joints.
- Take pictures of your joint.
  - **X-rays** can show things such as cartilage loss, bone damage, and bone spurs. Early damage may not show on x-rays.
  - **Magnetic resonance imaging (MRI)** can show damage to connective tissues.
- **Blood tests** to rule out other causes for symptoms.
- **Joint fluid samples** to look for other causes of joint pain, such as infection or gout.

## How is it treated?

Treatment for osteoarthritis can include medications or surgery to reduce pain and improve functioning.

- **Medications** commonly used in treating osteoarthritis include:
  - *Over-the-counter pain relievers* such as acetaminophen.
  - *Nonsteroidal anti-inflammatory drugs (NSAIDs)* to treat pain and inflammation. Ibuprofen and naproxen sodium, are available over the counter, whereas other

- NSAIDs are available by prescription only.
- *Creams, rubs or sprays* that are applied to the skin over sore joints to relieve pain.
  - *Prescription opioid pain relievers* are sometimes prescribed when over-the-counter medications don't work or a person may not be able to take NSAIDs.
  - *Corticosteroids* are strong inflammation-fighting drugs that can be injected into the joint to temporarily relieve pain. This type of treatment is usually not recommended for more than two to four treatments per year. These types of drugs are not typically given by mouth to treat osteoarthritis, unless treating inflammatory flares.
  - *Hyaluronic acid substitutes (viscosupplements)* are injected into the knee to replace a normal component of the joint involved in lubrication and nutrition.
- **Surgery** may be a factor after considering a variety of factors, including your age, occupation, level of disability, pain intensity, and the degree to which arthritis interferes with your lifestyle. Surgeries can include one or more of the following:
    - *Arthroscopic debridement*: Removal of loose pieces of bone and cartilage from the joint.
    - *Osteotomy*: Repositioning of bones.
    - *Joint resurfacing*: Smoothing out bones.
    - *Prostheses are artificial joints that replace affected joints*. The artificial joints can be made from metals, high-density plastic, or ceramic material. Artificial joints can last 10 to 15 years or longer. In some cases, your surgeon may replace only the damaged part of the knee joint, leaving undamaged parts of the joint in place.
  - **Transcutaneous electrical nerve stimulation (TENS)** directs mild electric pulses to nerve endings that lie beneath the skin in the painful area. It seems to work by blocking pain messages to the brain and by changing pain perception.
  - **Alternative therapies** for osteoarthritis can include:
    - *Massage* can increase blood flow and bring warmth to a stressed area. However, arthritis-stressed joints are sensitive, so the therapist must be familiar with the problems of the disease.
    - *Acupuncture* uses thin needles to relieve pain and restore health. Scientists think the needles stimulate the release of natural, pain-relieving chemicals produced by the nervous system.

## Who treats it?

Treating osteoarthritis requires a team effort involving you and several types of health care professionals. These may include:

- Primary care doctors, such as a family physician or internal medicine specialist, who coordinates care between the different health providers and treats other problems as they arise.
- Rheumatologists, who specialize in arthritis and other diseases of the bones, joints, and muscles.
- Orthopaedists, who specialize in treatment and surgery for bone and joint diseases.
- Physical therapists, who help improve joint function.
- Occupational therapists, who teach ways to protect joints, minimize pain, perform activities

of daily living, and conserve energy.

- Dietitians, who teach about good diets and maintaining a healthy weight.
- Nurse educators, who help you understand your condition and help start treatment plans.
- Physiatrists (rehabilitation specialists), who supervise exercise programs.
- Licensed acupuncture therapists, who reduce pain and improve physical functioning by inserting fine needles into the skin at specific points on the body.
- Psychologists or social workers, who help with social challenges caused by medical conditions.
- Chiropractors, who focus treatment on the relationship between the body's structure, mainly the spine, and its functioning.
- Massage therapists, who press, rub, and otherwise manipulate the muscles and other soft tissues of the body.

## Living With It

There are many things you can do to help you live with osteoarthritis, including:

- Exercise can reduce joint pain and stiffness and increase flexibility, muscle strength, and endurance. Exercise also helps people lose weight, which reduces stress on painful joints. You should speak to your doctor about a safe, well-rounded exercise program, which could include:
  - *Strengthening exercises*: Performed by weights or exercise bands to strengthen muscles that support joints affected by arthritis.
  - *Aerobic activities*: Exercises that keep your lungs and circulatory system healthy. Examples include brisk walking or low-impact aerobics.
  - *Range-of-motion activities* keep your joints limber.
  - *Balance and agility exercises* help you maintain daily living skills.
- Weight control: If overweight, losing weight can reduce stress on joints, limit further injury, increase mobility, and reduce the risk of associated health problems. A healthy diet and regular exercise help reduce weight.
- Heat and cold therapies can reduce joint pain. Heat therapy increases blood flow, tolerance for pain, and flexibility. Cold therapy numbs the nerves around the joint to reduce pain and may relieve inflammation.
- Nutritional supplements such as glucosamine and chondroitin sulfate have been reported to improve symptoms in some people with osteoarthritis, as have certain vitamins.

## Research Progress

Recent research on osteoarthritis has focused on:

- **Immune system**: People with osteoarthritis have increased activation of the complement system, a major part of the immune system. Researchers are using animal models to explore whether blocking this system might help treat osteoarthritis.

- **Biomarkers:** Data from osteoarthritis patients will help understand how certain risk factors are linked to development and worsening of knee osteoarthritis.
- **Diagnosis:** Scientists are exploring ways to detect cartilage changes that could eventually enable doctors to diagnose osteoarthritis long before traditional x-rays would show damage.
- **Medications:** Researchers are looking for drugs that would prevent, slow down, or reverse joint damage.
- **Complementary and alternative therapies:** The Glucosamine/Chondroitin Arthritis Intervention Trial (GAIT), found that the combination of glucosamine and chondroitin sulfate provided pain relief in some patients.
- **Healing joint injuries and cartilage damage:** Researchers are exploring ways to heal the knee's anterior cruciate ligament (ACL), to avoid surgery. Other scientists are looking for ways to patch damaged cartilage.
- **Genetics:** Scientists have identified a gene defect in an inherited type of osteoarthritis. This gene defect affects an important part of cartilage, making it more likely that the cartilage will break or tear more easily under stress.
- **Patient education and self-management:** Researchers are investigating a variety of self-management approaches in people with osteoarthritis, including coping skills training, exercise training, patient education, and social support. These strategies have shown some success in managing pain and improving function.
- **Exercise and weight reduction:** Studies have shown that losing extra weight can help people who already have osteoarthritis. Moreover, overweight or obese people who do not have osteoarthritis may reduce their risk of developing the disease by losing weight.

## For more info

### U.S. Food and Drug Administration

Toll free: 888-INFO-FDA ([888-463-6332](tel:888-463-6332))

Website: <https://www.fda.gov>

Drugs@FDA at <https://www.accessdata.fda.gov/scripts/cder/daf/>. Drugs@FDA is a searchable catalog of FDA-approved drug products.

### Centers for Disease Control and Prevention, National Center for Health Statistics

Website: <https://www.cdc.gov/nchs>

### NIH Osteoporosis and Related Bone Diseases~ National Resource Center

Website: <https://www.bones.nih.gov>

### National Institute on Aging

Website: <https://www.nia.nih.gov>

### American Academy of Orthopaedic Surgeons

Website: <https://www.aaos.org>

### American College of Rheumatology

Website: <https://www.rheumatology.org>

### **Arthritis Foundation**

Website: <https://www.arthritis.org>

### **American Physical Therapy Association**

Website: <https://www.apta.org>

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